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Chen

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(54) **RECLINING LEISURE CHAIR**

(75) Inventor: **Yuan-Chuen Chen**, Chang-Hua Hsien (TW)

(73) Assignee: **Hsin Hao Health Materials Co., Ltd.**, Chang-Hua Hsien (TW)

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(22) Filed: **Apr. 5, 2002**

(51) **Int. Cl.**[7] **A47C 1/02**; A47C 1/024; A47C 20/00

(52) **U.S. Cl.** **297/330**; 297/83; 297/68; 297/318; 297/300.1; 297/300.2; 297/423.19; 297/325

(58) **Field of Search** 297/68, 69, 300.1, 297/300.2, 423.19, 325, 330, 341, 88, 83, 317, 318, 320, 322, 342

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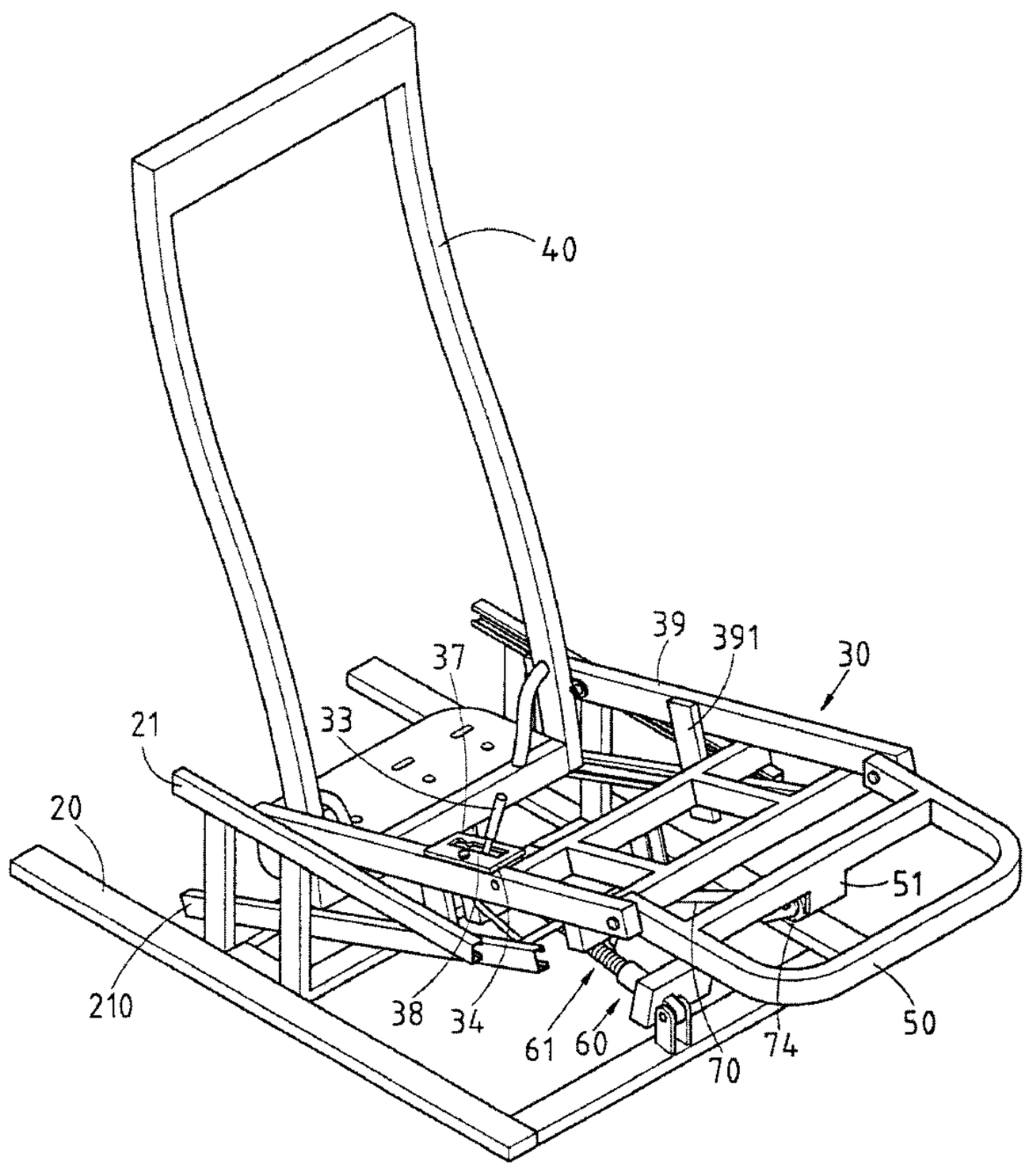
Primary Examiner—Peter M. Cuomo
Assistant Examiner—Sarah C. Burnham
(74) *Attorney, Agent, or Firm*—Harrison & Egbert

(57) **ABSTRACT**

A reclining leisure chair includes a base frame, a seat frame, a backrest frame, a hassock frame, a driving device, and a link rod. The driving device enables the seat frame and the backrest frame to be adjusted for reclining at the same time. The link rod is pivotally fastened at one end to the backrest frame, and at the other end with a pivoting portion of the seat frame. In conjunction with a control rod of the seat frame, the link rod enables the backrest frame to be adjusted for reclining independently. The hassock frame is pivoted with the link rod.

5 Claims, 9 Drawing Sheets



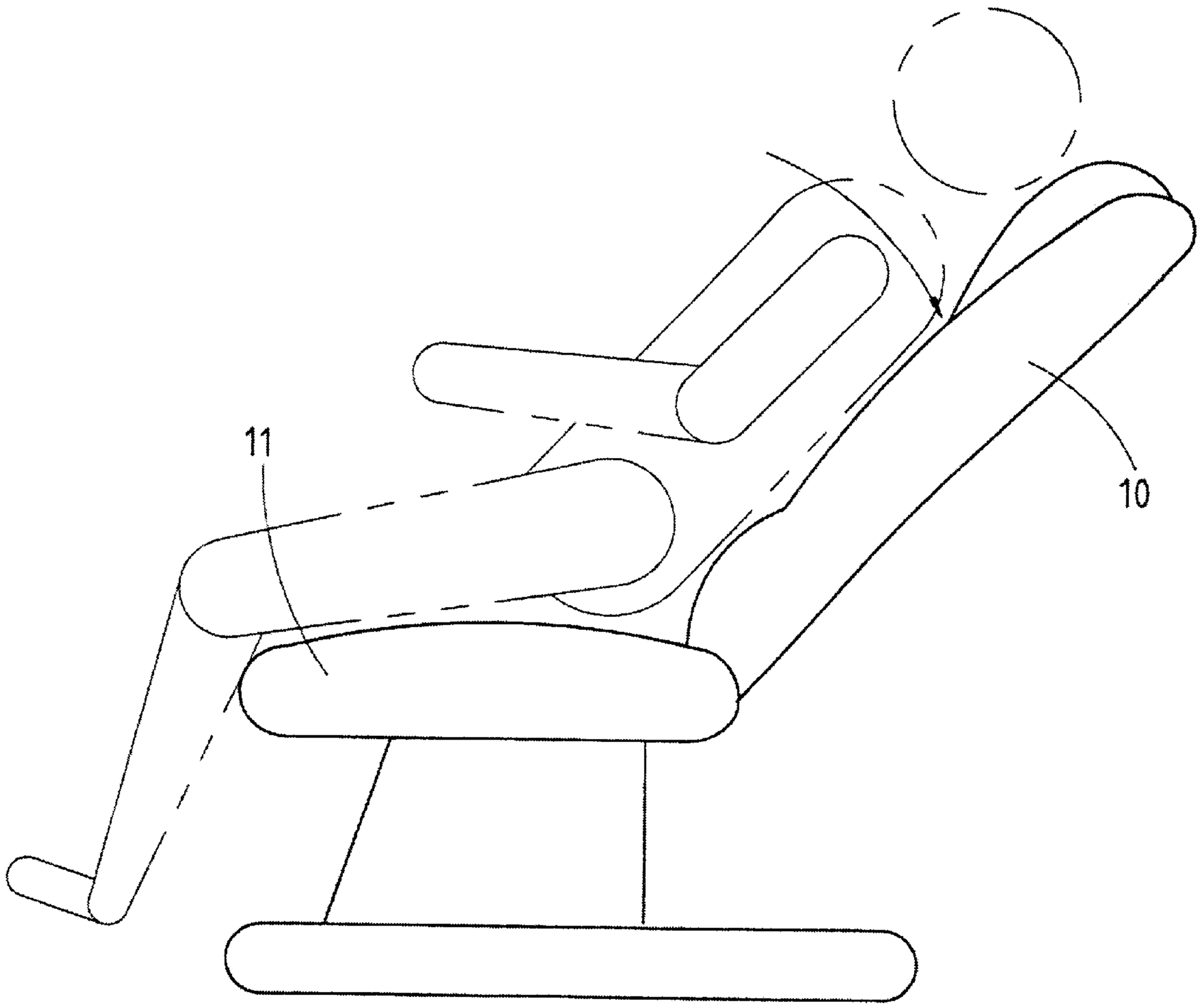


FIG.1 PRIOR ART

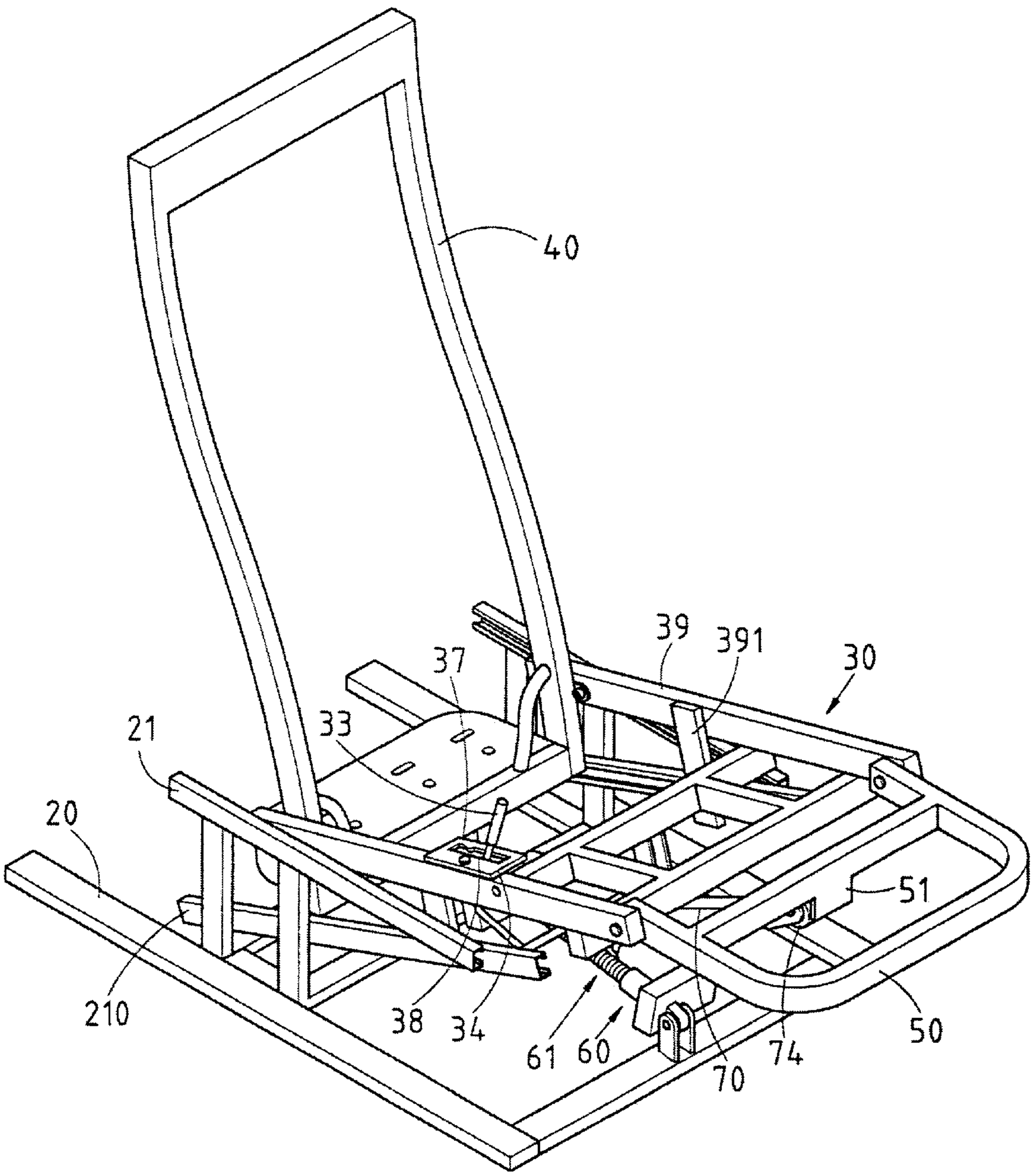
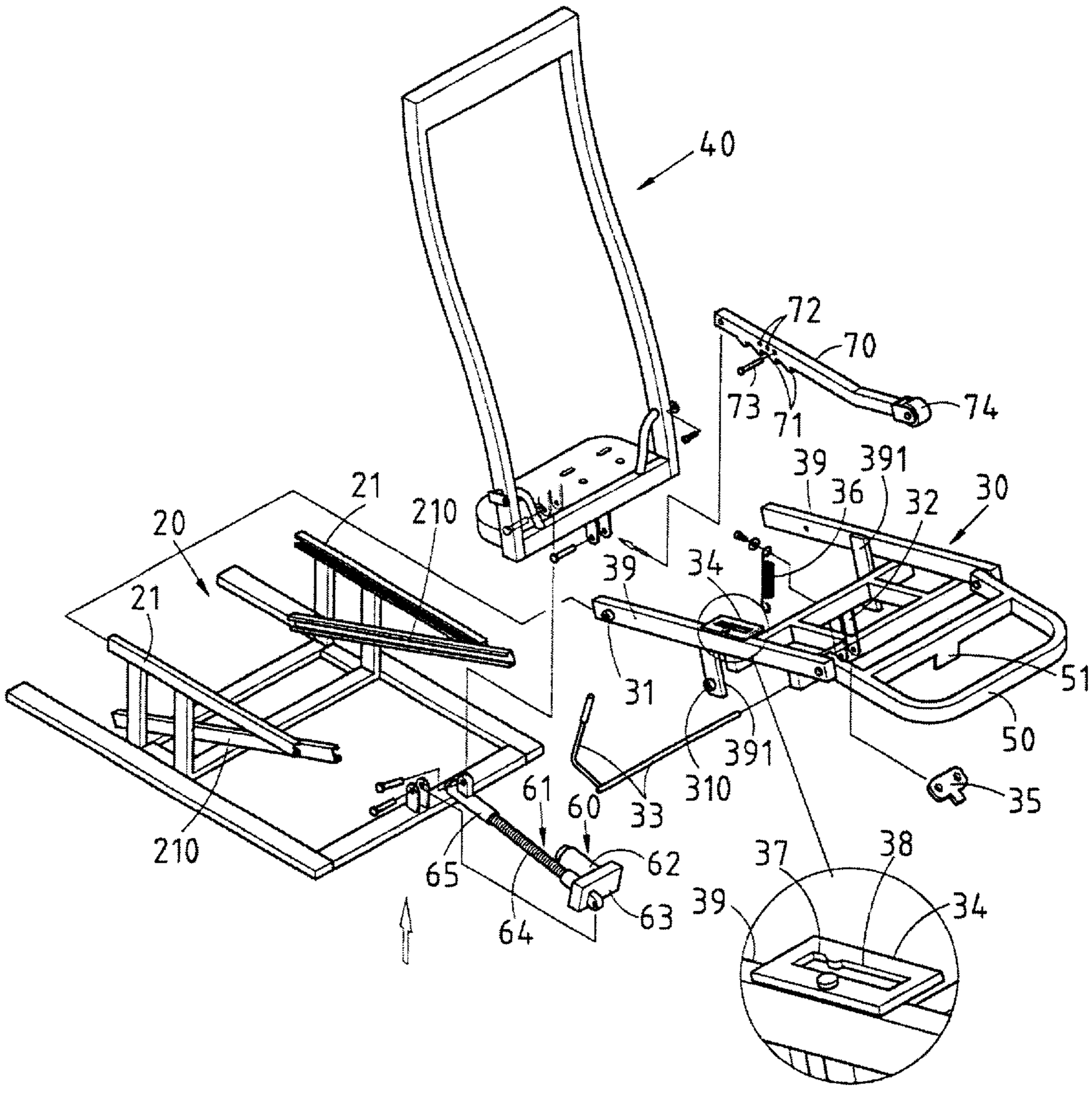


FIG.2


40
72
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391
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32
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21
210
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38

FIG.3

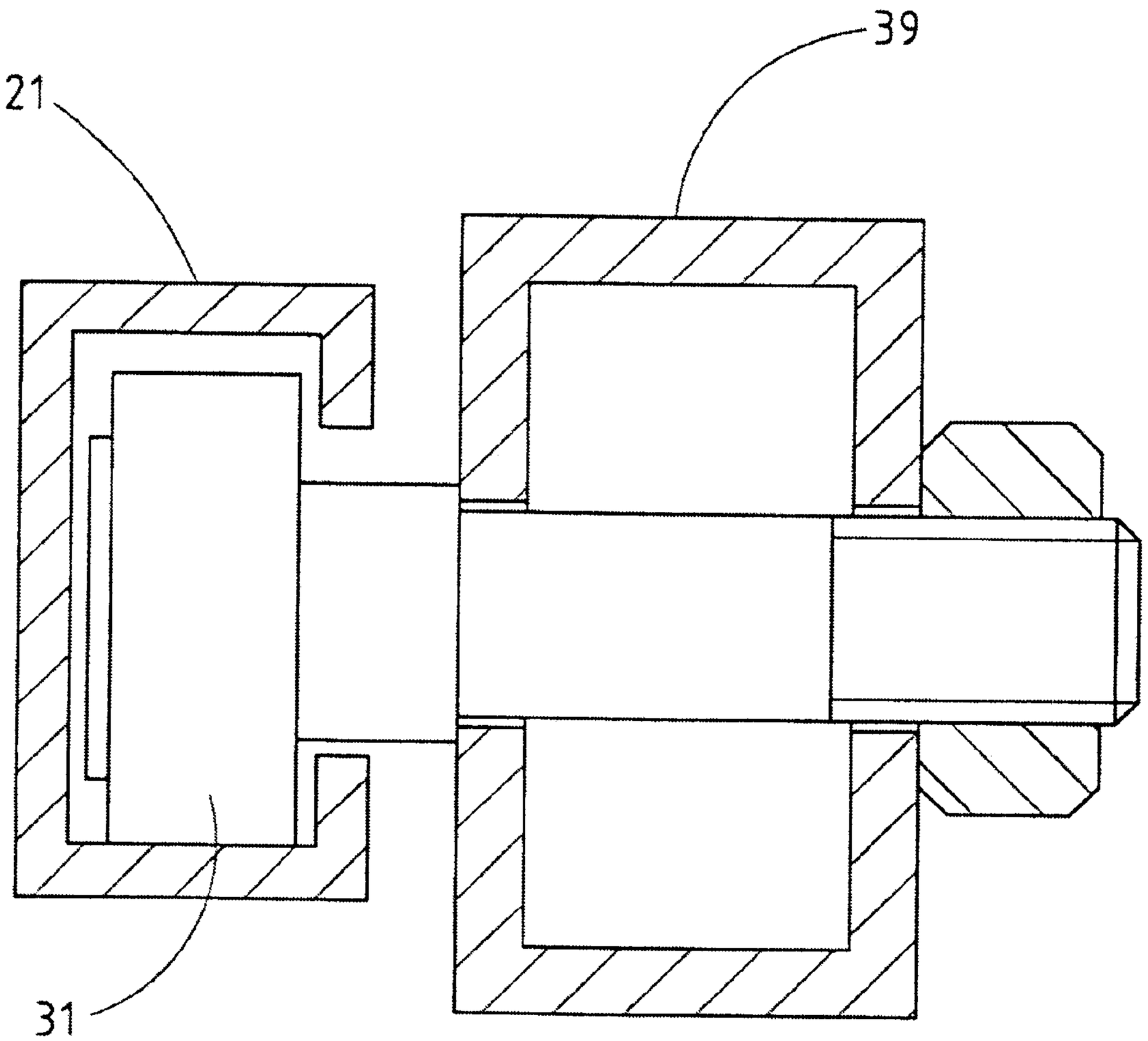

FIG.4

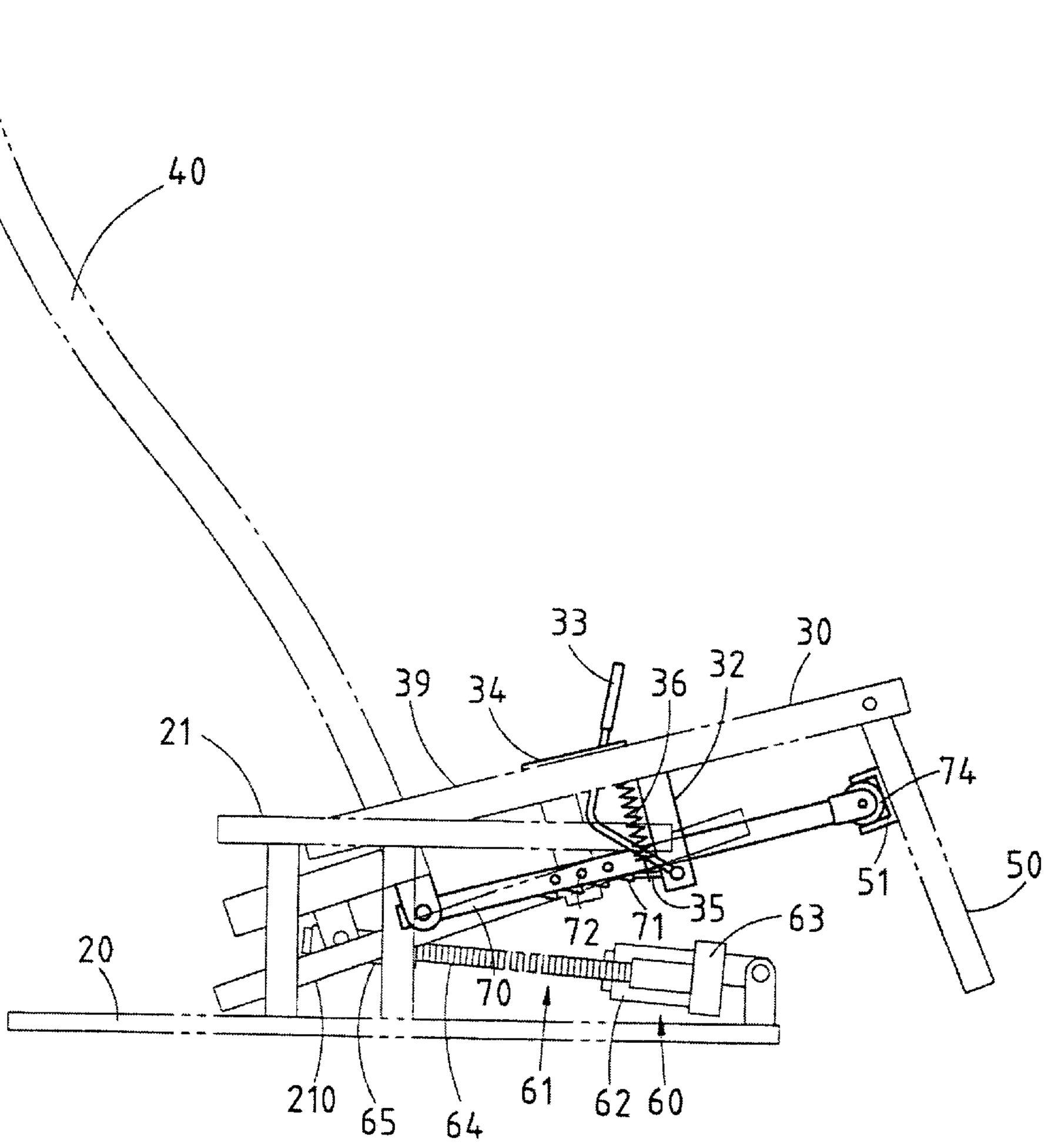

FIG.5

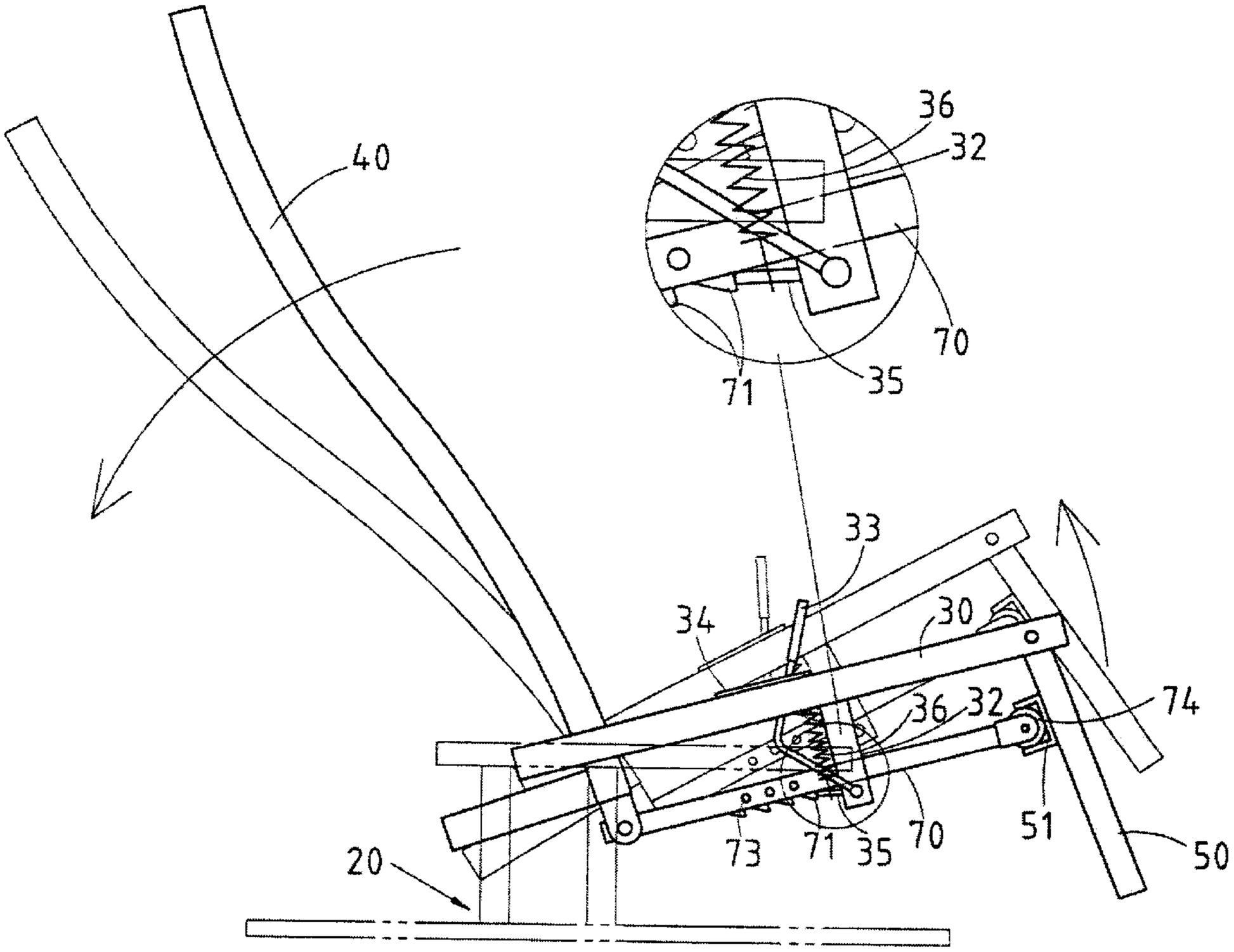

FIG.6

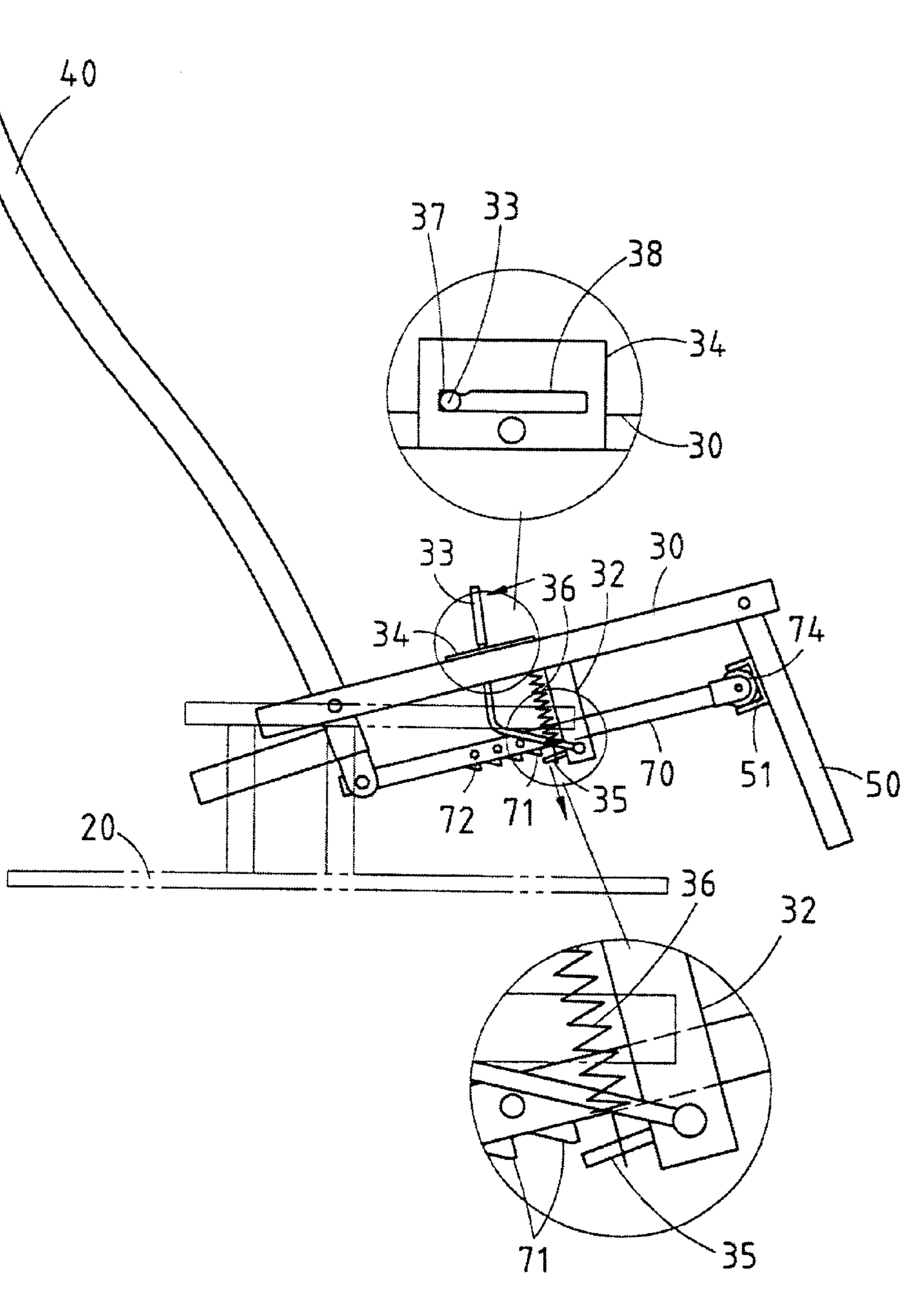

FIG. 7

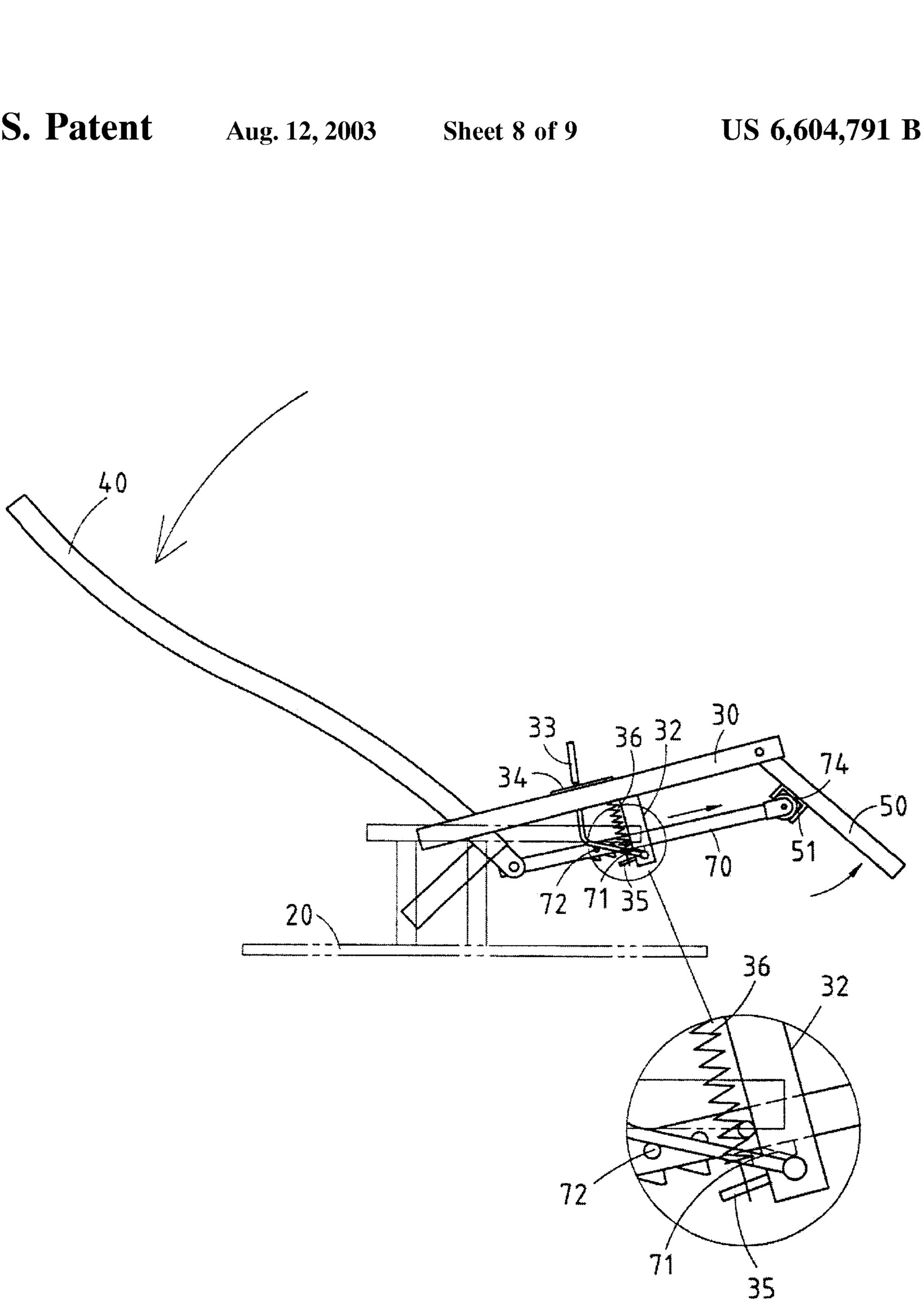

FIG.8

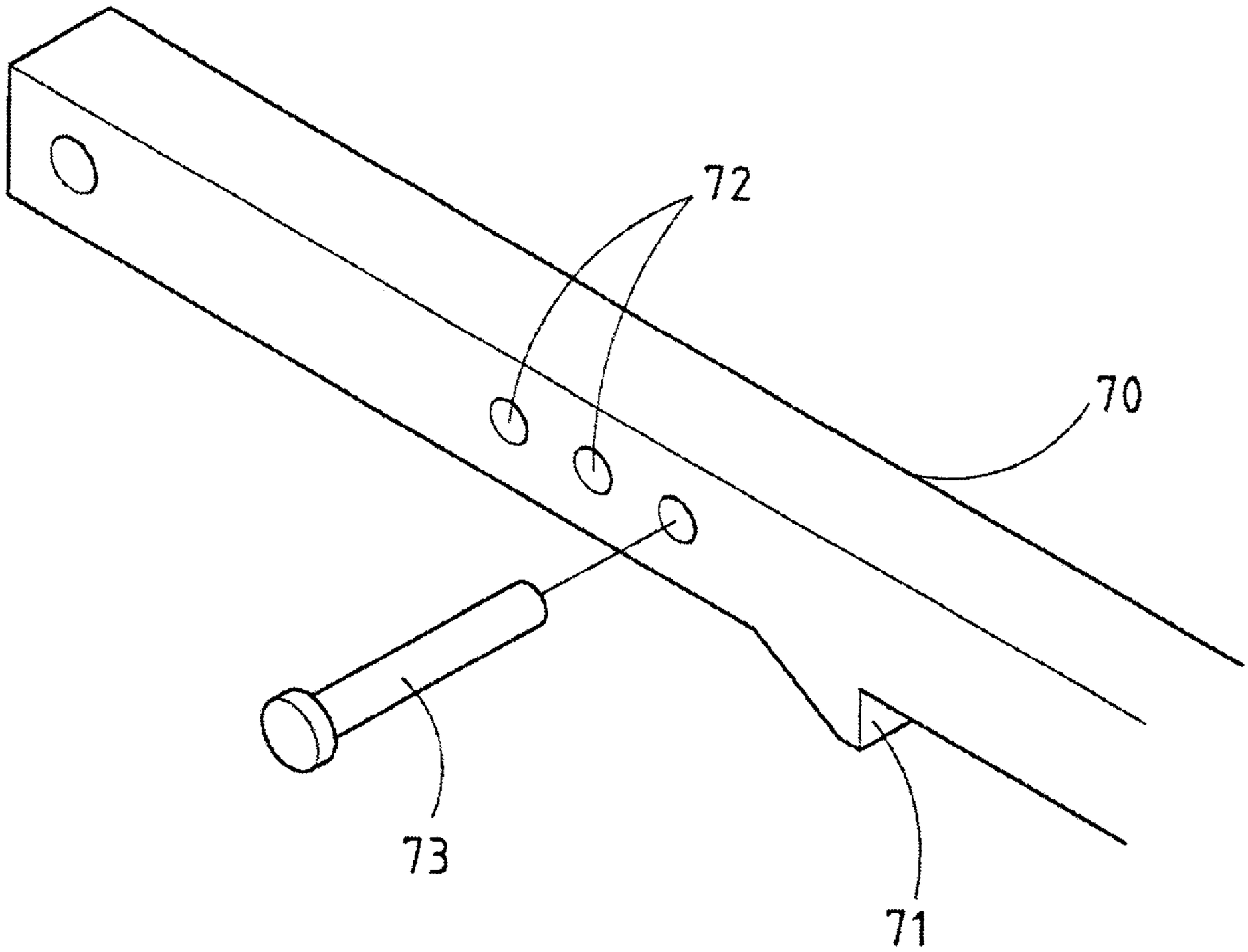

FIG.9

RECLINING LEISURE CHAIR

RELATED U.S. APPLICATIONS

Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable.

REFERENCE TO MICROFICHE APPENDIX

Not applicable.

FIELD OF THE INVENTION

The present invention relates generally to a leisure chair, and more particularly to a reclining leisure chair.

BACKGROUND OF THE INVENTION

As shown in FIG. **1**, a prior art leisure chair comprises a movable backrest **10** and a movable seat **11**, which can be adjusted for reclining by a reclining mechanism. The reclining mechanism of the prior art leisure chair enables the seat **11** to move at the same time when the backrest **10** is adjusted for reclining. However, the back and the waist of a person seated on the prior art leisure chair are subjected to great stress in the midst of a reclining action.

BRIEF SUMMARY OF THE INVENTION

The primary objective of the present invention is to provide a reclining leisure chair which is free of the deficiency of the prior art leisure chair described above.

In keeping with the principle of the present invention, the foregoing objective of the present invention is attained by a reclining leisure chair comprising a base frame, a seat frame, a backrest frame, and a driving device mounted on the base frame to enable the seat frame and the backrest frame to move simultaneously in such a manner that the back and the waist of a person seated on the reclining leisure chair are not subjected to pressure.

The reclining leisure chair of the present invention further comprises a hassock frame which is pivoted with one end of a link rod. The link rod is pivoted at other end with the backrest frame in conjunction with a control rod. The backrest frame can be thus adjusted for reclining independently of the seat frame.

The features and the advantages of the present invention will be more readily understood upon a thoughtful deliberation of the following detailed description of a preferred embodiment of the present invention with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. **1** shows a schematic view of a reclining leisure chair of prior art in use.

FIG. **2** shows a perspective view of the preferred embodiment of present invention.

FIG. **3** shows an exploded perspective view of the preferred embodiment of the present invention.

FIG. **4** shows a partial sectional view of the preferred embodiment of the present invention.

FIG. **5** shows a side elevation view of the preferred embodiment of the present invention.

FIG. **6** shows a side schematic view of the preferred embodiment of the present invention in action.

FIG. **7** shows another side schematic view of the preferred embodiment of the present invention in action.

FIG. **8** shows another side schematic view of the preferred embodiment of the present invention in action.

FIG. **9** shows an enlarged schematic view of the link rod of preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

As shown in FIGS. **2–5**, a reclining leisure chair embodied in the present invention comprises a base frame **20**, a seat frame **30**, a backrest frame **40**, a hassock frame **50**, a driving device **60**, and a link rod **70**.

The base frame **20** is provided in two longitudinal sides with a horizontal slide rail **21** and an inclined slide rail **210**.

The seat frame **30** is formed of two longitudinal side rods **39** which are in turn provided at the rear end with a first roller **31**, and in the midsegment with a roller frame **391** fastened therewith. The roller frame **391** is used to mount a second roller **310**. The seat frame **30** is further provided in the midsegment of one of the two longitudinal side rods **39** thereof with a position confining piece **34** which is provided with a retaining edge **37** and a confining slot **38**. The seat frame **30** is provided in the underside with a pivoting portion **32** and a control rod **33** which is pivoted with the pivoting portion **32** in conjunction with a switching piece **35** and a spring **36** urging the switching piece **35**. The seat frame **30** is mounted on the base frame **20** such that the first rollers **31** of the side rods **39** of the seat frame **30** are slidably received in the horizontal slide rails **21** of the base frame **20**, and that the second rollers **310** of the side rods **39** of the seat frame **30** are slidably received in the inclined slide rails **210**.

The backrest frame **40** is mounted on the base frame **20** in conjunction with the link rod **70** which is pivoted at one end with the backrest frame **40** and at other end with the pivoting portion **32** of the seat frame **30**. The link rod **70** is provided with a stopping portion **71** for stopping the switching piece **35**, so as to enable the backrest frame **40** and the seat frame **30** to be adjusted simultaneously for reclining. The switching piece **35** can be caused by the control rod **33** to move away from the stopping portion **71** of the link rod **70**, thereby enabling the backrest frame **40** to be adjusted independently for reclining.

The hassock frame **50** is fastened pivotally to the front end of the seat frame **30** and the other end of the link rod **70**.

The driving device **60** is fastened with the base frame **20** and the seat frame **30** and is provided with an expansion piece **61** to enable the seat frame **30** and the backrest frame **40** to recline at the same time.

The driving device **30** is formed of a motor **62**, a transmission member **63** driven by the motor **62**, a threaded rod **64** actuated by the transmission member **63**, and a threaded tube **65** fastened to the base frame **20**. As the threaded rod **64** is actuated by the transmission member **63**, the threaded rod **64** turns inside the threaded tube **65** to extract or retract.

As shown in FIGS. **5** and **9**, the link rod **70** is provided with a plurality of through holes **72** and a locating pin **73** which is put into one of the through holes **72** to locate the backrest frame **40** on the heels of the adjustment of the backrest frame **40** for reclining.

The link rod **70** is provided in proximity of one end with a movable wheel **74**. The hassock frame **50** is provided with a receiving slot **51** for receiving the movable wheel **74** which

is intended to reduce the mechanical friction between the link rod **70** and the hassock frame **50**.

The position confining piece **34** of the sear frame **30** is provided with the confining slot **38** which is in turn provided with the retaining edge **37**. The control rod **33** is located by the retaining edge **37**.

As shown in FIG. **6**, the spring **36** urges the stopping portion **71** of the link rod **70**. The link rod **70** and the pivoting portion **32** of the seat frame **30** are engaged with each other. As a result, the seat frame **30** and the backrest frame **40** can be adjusted for reclining at the same time.

As shown in FIG. **7**, when the switching piece **35** is caused by the control rod **33** to move away from the stopping portion **71** of the link rod **70**, the link rod **70** is disengaged with the switching piece **35**, thereby enabling the link rod **70** to push the hassock frame **50** at the time when the backrest frame **40** is adjusted independently for reclining.

I claim:

1. A reclining leisure chair comprising:

a base frame having two longitudinal sides, each of said longitudinal sides having a horizontal slide rail and an inclined slide rail;

a seat frame having two longitudinal side rods, each of said longitudinal side rods having a first roller at a rear end thereof, said seat frame having a roller frame affixed at a midsegment thereof, said roller frame supporting a second roller thereon, said seat frame having a position confining piece at a midsegment of one of said two longitudinal side rods, said seat frame having a pivoting portion and a control rod at an underside thereof, said control rod pivoted with said pivoting portion, said seat frame having a switching piece and a spring, said seat frame being mounted on said base frame such that the first rollers are slidably received respectively in the horizontal slide rails of said base frame, the second rollers of said seat frame being slidably received respectively in the inclined slide rails of said base frame;

a backrest frame mounted to said base frame by a link rod, said link rod pivoted at one end to said backrest frame and at an opposite end with said pivoting portion of said seat frame, said link rod having a stopping means thereon for stopping said switching piece so as to enable said backrest frame and said seat frame to be adjusted simultaneously for reclining, said control rod cooperative with said switching piece so as to cause said switching piece to move away from said stopping means to enable said backrest frame to be independently adjusted for reclining;

hassock frame pivotally fastened to said seat frame and said link rod; and

a driving means fastened to said base frame and said seat frame, said driving means having an expansion piece for enabling said seat frame and said backrest frame to recline simultaneously.

2. The reclining leisure chair of claim **1**, said driving means comprising:

a motor;

a transmission member driven by said motor;

a threaded rod drivingly rotatably connected to said transmission member; and

a threaded tube fastened to said base frame such that said threaded rod is rotatably positioned within said threaded tube.

3. The reclining leisure chair of claim **1**, said link rod having a plurality of through holes formed therein and a locating pin inserted into one of said plurality of through holes for positioning said backrest frame.

4. The reclining leisure chair of claim **1**, said link rod having a movable wheel affixed thereto, said hassock frame having a receiving slot receiving said movable wheel therein.

5. The reclining leisure chair of claim **1**, said position confining piece of said seat frame having a confining slot with a retaining edge, said retaining edge of said confining slot receiving said control rod therein.

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